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ABSTRACT

This study examined the relationship between work experiences and alumni satisfaction with their college experience at the University of Tennessee, Knoxville (UTK). As part of a campus-wide assessment program in 1988, all seniors completing the UTK general education testing requirement were administered a survey designed to elicit information about their satisfaction with college. In 1990, the same individuals were mailed copies of the Tennessee alumni survey containing many of the same items in the senior survey. The response rate for the senior survey was 100 percent, and the response rate for the alumni survey was slightly greater than 50 percent. Data from both surveys were available for 828 individuals who were employed full-time when the alumni survey was administered. Preliminary analysis revealed that most subjects had positive evaluations of their work and college experiences. Only 18 percent of the subjects were dissatisfied or very dissatisfied with the types of work they were doing. Alumni ratings of college experiences were positively related to their ratings as seniors. Alumni dissatisfied with their college experiences were dissatisfied as seniors. In addition, those satisfied with the types of work they had and their pay rates, held more favorable opinions of their college experience. (contains 36 references.) (JB)

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THE RELATIONSHIP BETWEEN ALUMNI SATISFACTION AND WORK EXPERIENCES[1]

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Running Head: WORK EXPERIENCES

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Jean Endo
Chair and Editor
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Abstract

Although alumni surveys frequently include questions about work experiences, little information is available about the relationship between work experiences and alumni satisfaction with college. The results of the present research indicate that work experiences are significantly related to alumni ratings of their college experiences. Specifically, alumni who are satisfied with their jobs are more likely to report being satisfied with their education experiences. The results of this research also indicate that women are less satisfied with their pay than men. Compared to men, women are neither more dissatisfied with the types of work they are performing nor more likely to be looking for another job. Counter to expectation, dissatisfaction with pay has a more significant effect on ratings of college experiences for women than for men.

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THE RELATIONSHIP BETWEEN ALUMNI SATISFACTION AND WORK EXPERIENCES

In his review of 10 landmark studies, Pace (1979) concluded that alumni surveys represent a powerful tool for assessing the effects of college on students. Despite Pace's enthusiastic endorsement, the widespread use of alumni surveys for institutional research is a relatively recent phenomenon (Melchiori, 1988a; Pettit, 1991). Today, alumni surveys are used to create information networks (Maves, 1988), raise needed funds for scholarships and endowments (Melchiori, 1988b), and evaluate education programs (Moden and Williford, 1988; Pettit, 1991).

Given the current interest in outcomes assessment, the role of alumni surveys in evaluating education programs is particularly significant (Pike, 1990). Unlike surveys of other cohorts (enrolled undergraduates, dropouts, graduate students, etc.), alumni surveys are designed to elicit individuals' reflections about the quality of their education experiences that are tempered by their experiences since graduation (Williford and Moden, 1989). One experience that can have a profound effect on alumni ratings of their college experiences is job success and satisfaction (Pace, 1979). Although questions about work experiences frequently are included in alumni surveys, surprisingly little information is available about the relationship between job satisfaction and alumni satisfaction with college. The purpose of this research was to examine how alumni job satisfaction was related to alumni ratings of their college experiences. Gender and individuals' senior ratings of their college experiences also were included because they have been found to be related to alumni satisfaction with college.

Background

In summarizing the results of 10 alumni studies conducted between 1937 and 1976, Pace (1979) noted that most alumni were satisfied with their college educations and that they reported

making substantial academic and personal gains during college. In several of the studies summarized by Pace, women were more satisfied with college than men. Pace reported that as many as 90% of the alumni believed that their college educations were relevant to their jobs, and from two-thirds to three-fourths of the alumni surveyed worked in occupations that were the same or similar to their major fields of study. Few alumni reported dissatisfaction with their jobs.

Many of the alumni surveys conducted between 1970 and the mid-1980s focused on specific academic disciplines, such as education (Pigge, 1978, 1983, 1984, 1987) or liberal arts (Bechtel, 1984; Benner and Hitchcock, 1986; Sharp and Weidman, 1986; Wishart and Rossmann, 1977). Generally, these studies found that alumni were satisfied with their college experiences and their jobs. Alumni also reported that their academic experiences provided skills that were relevant in the workplace (Pettit, 1991).

Since the mid-1980s, researchers at Ohio University have used an alumni survey as one part of an ongoing program of institutional evaluation and improvement (Moden and Williford, 1988; Williford and Moden, 1989). The Ohio University survey asked alumni to respond to questions about employment status, job satisfaction, the relevance of college experiences to employment, and satisfaction with college. Yearly surveys have provided a substantial amount of data about alumni attitudes and have identified several opportunities for institutional improvement. In general, Ohio University alumni reported that they were satisfied with their jobs and their college experiences. The alumni also believed that their academic experiences were relevant to their occupations.

In 1987, and again in 1991, the Consortium on Financing Higher Education (COFHE) coordinated alumni surveys for member institutions (Litten, 1989; Pettit, 1991, 1992). Questions on the surveys included measures of satisfaction with college, learning and development during college, the costs of a college education, and employment outcomes. Consistent with the results reported by

Pace and researchers at Ohio University, the alumni surveyed by COFHE generally were satisfied with their college educations, believed that they had made significant academic and personal gains during college, and were satisfied with their jobs (Pettit, 1992). Both the 1987 and 1991 COFHE surveys followed up 1982 and 1984 graduates who had completed surveys as seniors. Unfortunately, the senior and alumni surveys differed significantly, and comparisons of individual responses were not possible (Pettit, 1992).

In 1987, the Tennessee Higher Education Commission (THEC) began using the results of a statewide alumni survey as one criterion for awarding a funding supplement to public colleges and universities in the state (Banta, 1988). Populations for the Tennessee surveys in 1988 and 1990 were all alumni who had graduated two years earlier (in 1986 and 1988). The Tennessee alumni survey included questions about satisfaction with college, activities engaged in during college, academic and personal development during college, and satisfaction with work (Banta, 1988).

Pike (1990) analyzed Tennessee alumni survey data from five institutions across the state. He found that alumni generally were satisfied with their college educations and work experiences. Pike also reported that alumni job satisfaction was positively correlated with satisfaction with college. Alumni who were satisfied with their jobs were likely to be satisfied with their college experiences, while alumni who were not satisfied with their jobs tended to be dissatisfied with college. Phillippi (1990) examined data from six institutions that participated in the 1988 Tennessee alumni survey. Across all six institutions he found that alumni generally were satisfied with their jobs and their college experiences. He also found that women tended to be more satisfied with college than men.

The Office of Institutional Research (1990) at the University of Tennessee, Knoxville (UTK) analyzed institutional results for the 1990 Tennessee alumni survey. The authors of that study reported that more than three-quarters of the UTK alumni responding to the questionnaire rated their

academic, social, and overall experiences during college as "good" or "excellent." These alumni also reported that they were generally "satisfied" or "very satisfied" with their work experiences.

Pike (1992) examined the stability of perceptions of college over time using individuals' responses to a senior survey conducted at UTK in 1988, as well as their responses to the 1990 Tennessee alumni survey. He found that the structure (dimensionality) of individuals' perceptions were stable over time. He also found evidence of both stability and change in reports of gains made during college. Results indicated that a senior's report of positive learning and personal development experiences during college was the best predictor of an identical response later in the alumni survey. Similarly, alumni who gave negative evaluations of their learning and development had given negative evaluations as seniors. Although alumni reports of learning and development were strongly related to senior reports, the relationship was not perfect. A significant number of individuals had more negative evaluations of their college experiences as alumni than they did as seniors. Pike (1993) suggested that a similar pattern should hold true for measures of satisfaction with college.

The National Longitudinal Study of the high school class of 1972 also provided information about the relationship between satisfaction with work and alumni satisfaction with college. Adelman's (1991) analysis of these data indicated that there were significant gender differences in work satisfaction and satisfaction with college. Moreover, the relationship between work satisfaction and satisfaction with college differed by gender. The women in the study who graduated from college earned less than men who had graduated from college. Adelman argued that this income differential was due to the presence of a disproportionate number of women in traditionally female occupations (e.g., nursing, teaching, and office and financial support). Women also indicated that they were more dissatisfied with their opportunities for promotion and advancement than did men. Despite having negative work experiences, women were more satisfied with their college educations than were men.

In summary, previous studies have found that individuals generally are satisfied with their college experiences, both as seniors and as alumni. In addition, alumni tend to be satisfied with their work experiences. Several studies have found significant gender differences in alumni satisfaction with work and college. Compared to men, women tend to be more satisfied with college and less satisfied with their work experiences, particularly their pay. However, dissatisfaction with work seems to have less effect on satisfaction with college for women than for men. Previous studies also have found that individuals' evaluations of their college experiences as seniors are positively related to their evaluations two years after graduation.

The most striking feature of previous alumni studies is the lack of research on the relationship between satisfaction with college and satisfaction with work. To be sure, many alumni are satisfied with their college experiences and many are satisfied with their work experiences. However, it is not clear whether these are the same individuals. Likewise, reports by alumni that their college experiences are relevant to their work do not provide conclusive evidence that there is a positive relationship between satisfaction with college and job satisfaction. It is possible that alumni could report that their college educations are relevant to their work, but not be satisfied with their occupations. In addition, no studies have examined whether declines in reported satisfaction with college are related to negative work experiences; neither have they directly examined whether the relationship between satisfaction with college and job satisfaction is the same for men and women.

Research Methods

Subjects

The setting for the present study was the University of Tennessee, Knoxville (UTK), the state's public research university. As part of the campus-wide assessment program in 1988, all seniors

completing the UTK general education testing requirement were administered a survey designed to elicit information about their satisfaction with college. In 1990, the same individuals were mailed copies of the Tennessee alumni survey, which contained many of the items in the senior survey. The response rate for the senior survey was 100%, and the response rate for the alumni survey was slightly greater than 50%.

Data were available for 828 individuals who completed both the senior and alumni surveys and who were employed full-time when the alumni survey was administered. Graduate students, members of the armed services, and individuals who were self-employed, employed part time, or unemployed were excluded from the analyses. Males comprised 49% of the research sample, and females comprised 51% of the sample. Slightly more than 95% of the subjects were white. In 1988, the mean age of the respondents was 23.8, and 93% of the subjects reported attending UTK full time. The mean entering estimated Enhanced ACT Assessment composite score for the group was 22.9, and the group mean cumulative grade point average at UTK was 2.98. Analysis of variance results indicated that the subjects in the study were not substantively different from the population of 1988 UTK graduates in terms of their background characteristics (age, gender, and race), entering ability levels, enrollment status, or academic achievement (cumulative grade point average).

Measures

Four sets of measures were used in the present research: (1) alumni ratings of their college experiences; (2) senior ratings of their college experiences; (3) alumni work satisfaction; and (4) gender. Data on subjects' gender were obtained from student records. The satisfaction data used in this study came from questions concerning ratings of college experiences that were common to both the senior and alumni surveys. These questions asked subjects to rate the quality of their academic,

social, and overall experiences at UTK. Response options were "Excellent," "Good," "Fair," and "Poor." Because relatively few individuals rated their college experiences as either fair or poor, these two categories were combined for the data analyses. Previous research by Pike (1993) found that the three college satisfaction questions represented a single outcomes dimension. Consequently, responses to the questions were combined, making the number of valid observations in the study 2,484 (3 questions × 828 individuals).

Three questions about alumni satisfaction with their work experiences also were included in the study. Alumni were asked to indicate their satisfaction with the types of work they were performing, their satisfaction with the pay they were receiving, and whether they were looking for another job at the time of the alumni survey. For the first two questions, the response options were "Very Satisfied," "Satisfied," "Dissatisfied," and "Very Dissatisfied." Because of small numbers of responses, the dissatisfied and very dissatisfied categories were combined. Response options for the third question, whether alumni were looking for new jobs, were "Yes" and "No." Because these three questions represented slightly different aspects of work satisfaction, their relationships to other measures were analyzed separately.

Data Analysis

Four-way contingency tables were formed by cross-tabulating alumni ratings of college experiences, senior ratings of college experiences, ratings of job satisfaction, and gender. Separate tables were formed for each of the three job satisfaction measures. For the purposes of this research, alumni ratings of college experiences were assumed to be response (dependent) measures, while senior ratings of their college experiences, work satisfaction, and gender were assumed to be independent variables.

Each of the contingency tables was analyzed using log-linear models (Bishop, Fienberg, and Holland, 1975). This procedure may be understood as an analog of analysis of variance (ANOVA) for evaluating frequency counts in complex contingency tables (Kennedy, 1983). One difference is that a two-way interaction in log-linear analysis is equivalent to a main effect in ANOVA, a three-way interaction in log-linear analysis is equivalent to a two-way interaction in ANOVA, and so forth (Sillars, Pike, Jones, and Redmon, 1983). Like traditional chi-squared procedures, log-linear analysis calculates expected frequency counts for successively higher-order interactions using the marginal totals of observed frequency counts (Kennedy, 1983). In log-linear analysis, non-significant chi-squared values indicate a satisfactory fit of the model to the data.

The data analysis was divided into two phases. In the first phase, relationships among the independent variables (senior ratings, work satisfaction, and gender) were analyzed to determine whether any of the interaction terms could be excluded without significantly reducing the explanatory power of the model. Based on the results of the first phase, a second phase of the data analysis was undertaken to identify relationships between alumni ratings of their college experiences and the independent variables. Both residual and component likelihood-ratio chi-squared statistics were used to identify appropriate models (Kennedy, 1983).

Results

Preliminary analyses revealed that most subjects had positive evaluations of their work and college experiences. These data are summarized in Table 1. An examination of the results for work satisfaction revealed that only 18% of the subjects were dissatisfied or very dissatisfied with the types of work they were doing. Approximately 42% of the subjects reported being satisfied, and 41% reported being very satisfied with their types of work. Respondents were less satisfied with the pay

they received. Slightly more than one-third (36%) of the subjects were dissatisfied with the pay in their jobs, while 50% of the subjects said they were satisfied, and 14% reported that they were very satisfied. Approximately 32% of the respondents reported that they were looking for new jobs. Also, subjects generally had positive evaluations of their college experiences as seniors. Only 12% of the respondents rated their college experiences as fair or poor when they were seniors, while 53% of the subjects rated their college experiences as good, and 35% rated their college experiences as excellent. Subjects' ratings of their college experiences as alumni were somewhat more negative. Almost one-quarter (23%) of the respondents rated their college experiences as fair or poor, 57% rated their college experiences as good, and 20% rated their college experiences as excellent.

Table 1:

Percentages[1] for Responses to Work Satisfaction and Ratings of College Experiences Measures

Satisfaction Type Work	Dissatisfied	Satisfied	Very Satisfied
	18%	42%	41%
Satisfaction Pay	Dissatisfied	Satisfied	Very Satisfied
	36%	50%	14%
Looking for a Job	Yes	No	
	32%	68%	

Table 1 (Continued)

Senior Experiences	Fair/Poor	Good	Excellent
	12%	53%	35%
Alumni Experiences	Fair/Poor	Good	Excellent
	23%	57%	20%

[1]Percentages may not total 100 due to rounding.

Relationships Among Independent Variables

Residual and component likelihood-ratio chi-squared tests indicated that several interaction terms were not needed to explain the relationships among senior ratings of college, the three measures of work satisfaction, and gender. For example, results of the log-linear analyses indicated that the relationships among senior satisfaction with college, satisfaction with types of work, and gender could be explained satisfactorily using the two-way interactions between senior ratings of their college experiences/gender and between senior ratings of college/satisfaction with types of work. (The inclusion of the two-way interaction between gender/satisfaction with types of work and the three-way interaction among seniors' satisfaction with college/satisfaction with types of work/gender did not significantly improve the goodness-of-fit of the log-linear model.) The residual likelihood-ratio chi-squared value for the simplified model was 9.35 ($df = 6$; $p > .05$).

Analyses also indicated that the relationships among senior satisfaction with college, satisfaction with pay, and gender could be explained satisfactorily using three two-way interactions: (1) the interaction between senior ratings of their college experiences and gender; (2) the interaction

between senior ratings of college experiences and satisfaction with pay; and (3) the interaction between gender and satisfaction with pay. This reduced model produced a residual likelihood-ratio chi-squared value of 4.90 ($df = 4$; $p > .05$). Regarding the relationships among seniors' satisfaction with college, whether the respondent was looking for another job, and gender, log-linear results indicated that only the two-way interaction between senior ratings of their college experiences and gender was needed to adequately represent the observed data (along with the distribution of responses to the question about whether the subject was looking for another job). The residual likelihood-ratio chi-squared value for this model was 4.27 ($df = 5$; $p > .05$).

Table 2 presents the data for the statistically significant interactions among independent variables. Percentages have asterisks beside them if the observed frequency counts differed from expected frequency counts and significantly contributed to the overall chi-squared results. Pluses and minuses are included to indicate the direction of the differences in observed and expected frequencies. (A plus indicates that observed frequencies exceeded expected frequencies, while a minus indicates that observed frequencies fell below the expected frequencies.) The first subtable in Table 2 includes the percentages of males and females responding "fair/poor," "good," or "excellent" to questions concerning senior satisfaction with college. These percentages indicate that senior females were more satisfied than senior males with their college experiences. Specifically, 15% of the males rated their college experiences as either fair or poor when they were seniors, compared to 10% of the females. Conversely, 50% of the males and 55% of the females rated their college experiences as good. Approximately 35% of both males and females rated their college experiences as excellent when they were seniors.

Table 2:

Percentages Corresponding to the Significant Interactions Between Independent Variables

Gender	Senior Experiences		
	Fair/Poor	Good	Excellent
Male	15%(+)***	50%(-)**	35%
Female	10%(-)***	55%(+)**	35%
TOTAL	12%	53%	35%
Senior Experiences	**Satisfaction Type Work**		
	Dissatisfied	Satisfied	Very Satisfied
Fair/Poor	29%(+)*	40%	31%
Good	18%	44%	38%
Excellent	14%	38%	48%
TOTAL	18%	42%	41%
Senior Experiences	**Satisfaction Pay**		
	Dissatisfied	Satisfied	Very Satisfied
Fair/Poor	40%	51%	9%(-)**
Good	39%	48%	13%
Excellent	30%(-)*	51%	19%(+)**
TOTAL	36%	50%	14%

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Table 2 (Continued)

Gender	Satisfaction Pay		
	Dissatisfied	Satisfied	Very Satisfied
Male	27%(-)***	56%(+)**	17%(+)**
Female	44%(+)***	44%(-)**	12%(-)**
TOTAL	36%	50%	14%

*p < .05; **p < .01; ***p < .001

The second subtable in Table 2 contains the percentages of dissatisfied, satisfied, and very satisfied responses to the question about subjects' satisfaction with the types of work they were performing, given their ratings of college experiences as seniors. Only one cell in this subtable significantly contributed to the overall chi-squared result. The percentage of individuals who rated their college experiences as fair or poor and who were dissatisfied with the types of work they were performing was significantly greater than expected (29%), given the frequency distributions for satisfaction with types of work and senior ratings of college experiences.

The third subtable contains percentages representing satisfaction with pay, given senior ratings of college experiences. Generally, satisfaction with pay was positively associated with senior ratings. Approximately 19% of the individuals who rated their college experiences as excellent when they were seniors were dissatisfied with their pay, while 30% of those individuals who rated their college experiences as excellent were very satisfied with their pay. Only 9% of the subjects who rated their college experiences as fair or poor were very satisfied with their pay.

The final subtable shows the percentages of males and females who were dissatisfied, satisfied, or very satisfied with their pay. Overall, females were less satisfied with their pay than males. Specifically, 27% of the males in this study reported that they were dissatisfied with their pay, compared to 44% of the females. Nearly 56% of the males indicated that they were satisfied, and 17% reported that they were very satisfied with their pay. Conversely, 44% of the females said that they were satisfied with their pay, and only 12% said that they were very satisfied.

Effects on Alumni Satisfaction

Log-linear analysis of the three four-way contingency tables revealed that both senior ratings of their college experiences (L.R.χ^2 = 474.47; df = 4; p < .001) and gender (L.R.χ^2 = 10.34; df = 2; p < .01) were significantly related to alumni ratings of college in all three tables. Responses to the three work satisfaction questions also were significantly related to alumni ratings of college experiences. Component likelihood-ratio chi-squared values were 39.35 (df = 4; p < .001) for satisfaction with types of work, 29.23 (df = 4; p < .001) for satisfaction with pay, and 19.93 (df = 2; p < .001) for whether subjects were looking for other jobs. In addition, two statistically significant three-way interactions were identified. These were the interaction between alumni ratings of college experiences, senior ratings of college, and satisfaction with types of work (L.R.χ^2 = 19.07; df = 8; p < .05) and the interaction between alumni ratings of their college experiences, satisfaction with pay, and gender (L.R.χ^2 = 16.60; df = 4; p < .01).

Table 3 presents the percentages of alumni rating their college experiences as fair/poor, good, or excellent, given levels of senior satisfaction and gender. The data in the first subtable supported previous findings that alumni reports mirror senior reports. Individuals who rated their college experiences as fair or poor as seniors were most likely to rate their college experiences as fair or poor

as alumni (56%). Subjects who rated their college experiences as good as seniors tended to rate their college experiences as good as alumni (65%), while seniors who rated their college experiences as excellent were more likely than expected to rate their experiences as excellent as alumni (40%).

Table 3:

Percentages for Alumni Experiences Given Senior Experiences and Gender

Senior Experiences	Alumni Experiences		
	Fair/Poor	Good	Excellent
Fair/Poor	56%(+)***	40%	5%(-)**
Good	24%	65%(+)***	11%(-)**
Excellent	9%(-)*	51%	40%(+)***
TOTAL	22%	57%	20%
Gender	**Alumni Experiences**		
	Fair/Poor	Good	Excellent
Male	22%(-)**	56%	23%(+)**
Female	23%(+)**	59%	18%(-)**
TOTAL	22%	57%	20%

*$p < .05$; **$p < .01$; ***$p < .001$

An examination of the percentages in the second subtable reveals that male alumni reported more positive evaluations of their college experiences than females. Approximately 23% of the males rated their college experiences as excellent, and 22% rated them as fair/poor. Only 18% of the females rated their college experiences as excellent, while 23% rated their experiences as fair/poor. Approximately 56% of the male and 59% of the female alumni rated their college experiences as good.

Table 4 presents the percentages of alumni who rated their college experiences as fair/poor, good, or excellent contingent on their responses to the three work satisfaction questions. The results presented in all three subtables conform to expectations. Individuals who were dissatisfied with their types of work were more likely than expected to rate their college experiences as fair/poor (33%) and less likely than expected to rate their college experiences as excellent (14%). Conversely, subjects who were very satisfied with their types of work were less likely to rate their college experiences as fair/poor (16%) and more likely to rate their college experiences as excellent (26%). A similar pattern was observed in the second subtable. Individuals who were dissatisfied with their pay were more likely to rate their college experiences as fair or poor (29%) and less likely to rate their college experiences as excellent (17%). Alumni who were very satisfied with their pay were less likely to rate their college experiences as fair/poor (14%) and more likely to rate their college experiences as excellent (22%). Percentages in the final subtable indicate that alumni who reported that they were looking for another job were more likely to rate their college experiences as fair/poor (27%) and less likely to rate their college experiences as excellent (16%). Subjects who were not looking for another job were less likely to rate their college experiences as fair/poor (20%) and more likely to rate their college experiences as excellent (22%).

Table 4:

Percentages for Alumni Experiences Given Work Satisfaction

Satisfaction Type Work	Alumni Experiences		
	Fair/Poor	Good	Excellent
Dissatisfied	33%(+)***	53%	14%(-)*
Satisfied	25%	58%	18%
Very Satisfied	16%(-)***	59%	26%(+)*
TOTAL	22%	57%	20%
Satisfaction Pay	**Alumni Experiences**		
	Fair/Poor	Good	Excellent
Dissatisfied	29%(+)***	54%(-)*	17%(-)**
Satisfied	20%	59%	21%
Very Satisfied	14%(-)**	59%	27%(+)**
TOTAL	22%	57%	20%
Looking for a Job	**Alumni Experiences**		
	Fair/Poor	Good	Excellent
Yes	27%(+)***	56%	16%(-)***
No	20%(-)***	58%	22%(+)***
TOTAL	22%	57%	20%

*p < .05; **p < .01; ***p < .001

The percentages of alumni rating their college experiences as fair/poor, good, or excellent by senior ratings given satisfaction with types of work are presented in Table 5. These data do not support the conclusion that lowered alumni ratings of their college experiences from the senior year are attributable to dissatisfaction with work. The relationships between senior and alumni ratings of their college experiences were not significantly different from expected values for individuals who were either dissatisfied or very satisfied with the types of work they were performing. Instead, the response patterns indicated that alumni who were satisfied with their types of work differed significantly from expectations. Specifically, individuals who were satisfied with their types of work, and as seniors rated their college experiences as good, were less likely than expected as alumni to rate their college experiences as fair or poor (24%). Most surprising, subjects who were satisfied with the types of work they were performing and who as seniors rated their college experiences as excellent were less likely than expected to rate their college experiences as excellent when they were alumni (34%). This same group was more likely than expected to rate their college experiences as fair or poor (14%).

Table 5:

Percentages for Alumni Experiences Given Senior Experiences Given Satisfaction with Type of Work

Satisfaction Type Work	Senior Experiences	Alumni Experiences		
		Fair/Poor	Good	Excellent
Dissatisfied	Fair/Poor	59%	38%	3%
	Good	33%	60%	6%
	Excellent	13%	50%	36%
	TOTAL	33%	53%	14%
Satisfied	Fair/Poor	56%	39%	6%
	Good	24%(-)*	65%	12%
	Excellent	14%(+)**	52%	34%(-)*
	TOTAL	25%	58%	18%
Very Satisfied	Fair/Poor	52%	43%	5%
	Good	19%	68%	13%
	Excellent	4%	51%	45%
	TOTAL	16%	59%	26%

*$p < .05$; **$p < .01$; ***$p < .001$

Table 6 contains the percentages for alumni ratings of college experiences given satisfaction with pay and given gender. In general, the data in Table 6 indicate that satisfaction/dissatisfaction with pay had a greater effect on the ratings of female alumni than on the ratings of male alumni. Specifically, 27% of the males who were dissatisfied with their pay rated their college experiences as fair or poor, and 22% rated their experiences as excellent. Slightly less than 17% of the male alumni who were very satisfied with their pay rated their college experiences as fair or poor, while 22% rated their college experiences as excellent. In contrast, 30% of the females who were dissatisfied with their pay rated their college experiences as fair or poor, and 14% rated their experiences as excellent. Only 11% of the women who were very satisfied with their pay rated their college experiences as fair or poor, while 33% rated their experiences as excellent.

Table 6:

Percentages for Alumni Experiences Given Satisfaction with Pay Given Gender

Gender	Satisfaction Pay	Alumni Experiences		
		Fair/Poor	Good	Excellent
Male	Dissatisfied	27%(-)*	51%	22%(+)***
	Satisfied	21%	56%	23%
	Very Satisfied	17%(+)*	61%	22%(-)***
	TOTAL	22%	56%	23%
Female	Dissatisfied	30%(+)*	56%	14%(-)***
	Satisfied	10%	62%	19%
	Very Satisfied	11%(-)*	56%	33%(+)***
	TOTAL	23%	59%	18%

*$p < .05$; **$p < .01$; ***$p < .001$

Discussion

The results of this study generally supported the findings of previous research. This study found that individuals' evaluations of their college experiences tended to be positive, both as seniors and as alumni. Consistent with results reported by Pike (1992), alumni ratings of college were slightly more negative than seniors' ratings. Alumni ratings of their work experiences also tended to be

positive, although the lowest ratings were given for satisfaction with pay. Consistent with expectations, alumni ratings of college experiences were positively related to their ratings as seniors. Alumni who were dissatisfied with their college experiences tended to be dissatisfied as seniors, and alumni who were satisfied with their college experiences tended to be satisfied as seniors. This research also found that alumni ratings of college were related to work satisfaction. Results indicated that individuals who were satisfied with the types of work they were performing, satisfied with the pay they were receiving, and/or were not looking for another job held more favorable opinions of their college experiences than did individuals who were dissatisfied with their work.

The relationship between individuals' senior and alumni ratings of college was not conditioned by work satisfaction as expected. It was assumed that lowered evaluations of college experiences from graduation to the time of the alumni survey would be related to negative work experiences. In fact, responses to the questions about satisfaction with pay and whether the individuals were looking for different jobs were not significantly related to the relationship between senior and alumni ratings of the quality of their college experiences. Although the relationship between senior and alumni ratings was conditioned by responses to satisfaction with the types of work being performed, the three-way interaction was counter to expectations. Dissatisfaction with types of work did not result in lowered evaluations of college from the senior to the alumni surveys. Instead, satisfaction with types of work was associated with lowered evaluations from the senior to alumni surveys for those individuals who indicated as seniors that their college experiences had been excellent. It should be emphasized that the association between alumni ratings of college experiences, senior ratings, and satisfaction with types of work was weak. Additional research is needed to determine whether there is a relationship between work satisfaction and changes in individuals' evaluations of their college experiences.

The third factor associated with alumni ratings of college was gender. Here again, results were counter to expectations. Previous research found that female alumni tend to hold more favorable opinions of their college experiences than do males. In this study, exactly the opposite result was observed. Females tended to hold more negative evaluations of the quality of their college experiences when they were surveyed as alumni. (In the senior survey, females held more positive attitudes toward their college experiences than did males.) One possible explanation for the fact that females were more negative than males in their alumni evaluations is that females had more negative work experiences than males. Results did indicate that females were less satisfied with their pay than males, although they were not less satisfied with the types of work they were performing, and they were not more likely to be looking for a different job.

Above and beyond these simple associations, there was a statistically significant three-way interaction between gender, satisfaction with pay, and alumni ratings of their college experiences. Specifically, the effect of satisfaction with pay on alumni ratings of college experiences was greater for women than men. That is, female alumni who were dissatisfied with their pay were far more likely to hold negative views of their college experiences than were male alumni who were dissatisfied with their pay. Conversely, female alumni who were very satisfied with their pay were more likely to hold positive views of their college experiences than were male alumni who were very satisfied with their pay.

It must be stressed that these results are specific to one institution, the University of Tennessee, Knoxville. Attempts to generalize these results to other institutions, even public research universities, may not be warranted. Moreover, the fact that only about 50% of the alumni surveyed in 1990 returned questionnaires raises the possibility of selection bias in the sample. Although the subjects included in this study did not differ from the population of UTK graduates in terms of

background and college outcomes, their attitudes about college and work may have been different than the attitudes of non-respondents. In addition, it is not possible from this study to infer that work experiences influence alumni evaluations of college. Data on satisfaction with work experiences and alumni ratings of their college experiences were gathered at the same time, making inferences about temporal ordering difficult to justify. Moreover, Pike (1993) found evidence that associations among items on the Tennessee alumni survey may be the product of a halo effect. Whether the halo effect extends to ratings of work satisfaction and ratings of college is beyond the scope of the present research.

Despite these limitations, the present research does offer some interesting observations about women's experiences in the world of work. That women earn less than men is a well-established finding (Adelman, 1991; National Committee on Pay Equity, 1986); this is not to say that women are paid less than men for comparable work. That may or may not be true. However, it is the case that women tend to be employed in traditionally female occupations (nursing, teaching, and clerical), and these occupations historically have paid less than traditionally male occupations (doctor, administrator, and supervisor) (Adelman, 1991).

Surprisingly, several studies have found that women are as satisfied, if not more satisfied, with their pay than men (Hulin and Smith, 1964; Major, 1989; Sauser and York, 1978). The present research produced exactly the opposite result. Compared to men, women were almost twice as likely to be dissatisfied with their pay. The dissatisfaction expressed by women in this study may be influenced by the fact that they were all college graduates. Previous studies have included subjects, many of them women, who had not graduated from college, and the women in these studies tended to attribute differences in pay to the greater training and/or experience of men (Hulin and Smith,

1964; Sauser and York, 1978). It may be that academic success in college led female UTK graduates to realize that they were as well trained and as experienced as male graduates.

Dissatisfaction with pay may also reflect a change in women's pay expectations. Previous research has found that, compared to men, women have higher levels of satisfaction with pay due to the fact that their pay expectations are much lower than those of men (Jackson, Gardner, and Sullivan, 1992; Major and Konar, 1984). It may be that women, particularly college graduates, are beginning to raise their pay expectations and, finding that they are paid less than men, are beginning to be more dissatisfied with their pay.

It is interesting that, despite being dissatisfied with their pay, the women in the present study were as satisfied as men with the types of work they were performing. While it is impossible to assert a conclusion from these data, it may be that women select occupations based on the intrinsic rewards of the job (satisfaction with types of work), rather than on the basis of extrinsic rewards (pay). Support for this interpretation can be found in research by Beutell and Brenner (1986), who reported that women place less value in pay than do men. However, these researchers also noted that the gap between men and women on this subject is narrowing.

Consistent with previous research, the women in the present study were not more likely than men to seek other jobs. This may reflect the fact that the labor market is more restricted for women than for men (Adelman, 1991). It may also be due to the fact that women are more place-bound than men because of family responsibilities (O'Neill, 1985). The reluctance of women to change jobs may also reflect a belief that gender inequities in the workplace are so pervasive that changing jobs will not improve pay and work conditions (Blau, 1984).

Conclusion

This study is neither an exhaustive investigation of the factors influencing alumni attitudes nor a major study of women in the workplace. However, it does extend several important points of discussion. First, the present research suggests that institutional researchers need to investigate how experiences after graduation influence alumni satisfaction with college. A basic tenet of alumni research is that alumni perceptions of college are tempered by experiences after graduation. Developing valid interpretations of alumni survey data demands that institutional researchers understand how those data are related to postgraduation experiences.

It is also important that institutional researchers understand how the relationship between experiences since graduation and alumni satisfaction may be different for various demographic groups. Individuals' work experiences may be influenced by factors that colleges have little control over, such as income differentials for men and women. To naively compare levels of alumni satisfaction across institutions or across programs without carefully considering the demographic characteristics of the samples may lead to invalid conclusions about the quality and effectiveness of education programs.

These results also demonstrate that institutional researchers can provide data to enlighten national debates on many policy issues. Although alumni surveys currently are not used to study differences in the work experiences of men and women, they can provide significant information on the subject. Virtually all of the alumni surveys currently in use ask respondents about their work experiences, and ask subjects to report their gender. It would be relatively easy for institutional researchers who rely on alumni surveys in order to evaluate the quality and effectiveness of their education programs to also examine the work experiences of males and females, as well as many minority and socioeconomic groups. This research could make a significant contribution to the

current debate about equal pay for men and women, majority and minority groups, and other cross-sections of society.

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